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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/648,170

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Jason B. Chesser

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10/07/2008

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EXAMINER

PATEL, NIHIR B

ART UNIT

PAPER NUMBER

3772

MAIL DATE

DELIVERY MODE

10/07/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/648,170	Applicant(s) CHESSER ET AL.	
	Examiner NIHIR PATEL	Art Unit 3772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09.08.2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-35 and 37-423 is/are rejected.
- 7) ☒ Claim(s) 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 8th, 2008 has been entered.

Response to Amendment

2. The examiner acknowledges the amendment filed on September 8th, 2008. The amendment comprises cancellation of claims 1-32 and amending claims 33, 36 and 39.

Response to Arguments

3. Applicant's arguments filed on September 8th, 2008 have been fully considered but they are not persuasive. The applicant argues that Levedahl does not disclose, teach or suggest thermal isolation regions comprising "a pair of inner walls each internal wall coupled to one of the pair of capillary walls to create a thermal isolation area between each inner wall and its corresponding capillary wall". The examiner disagrees with the applicant's argument. Levedahl states that "Under some conditions the best cross sectional configuration of the transport section may be that of two concentric tubular members such as cylinders, with the inner cylinder separating the interior vapor flow channel from the exterior liquid flow channel" which discloses thermal isolation. Levedahl goes on to that "... the inner concentric tubular member 118 acts in

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conjunction with outer casing 110 to form therebetween spaced, generally parallel surfaces 114 and 112 respectfully, forming a capillary flow path 124 for condensed liquid and a concentric inner vapor channel 126." suggesting that "a pair of inner walls each internal wall coupled to one of the pair of capillary walls to create a thermal isolation area between each inner wall and its corresponding capillary wall" as the amended claim 33 recites.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims **33-35 and 37-39** are rejected under 35 U.S.C. 102(b) as being anticipated by Levedahl (US 3,528,494).

6. **As to claim 33**, Levedahl teaches an apparatus that comprises a cover plate (**see col. 3 lines 50-60**); Levedahl teaches an apparatus that comprises a channeled base member (**see figure 8**) having an external wall **110 (see figure 1; col. 4 lines 25-30)** around a periphery thereof to which a cover plate is secured so as to define a sealed cavity (**see figure 8; col. 5 lines 20-30**), a pair of capillary walls, each capillary wall including a portion disposed substantially to a portion of the external wall so as to define a pair of capillary channels, the capillary walls dividing the sealed cavity into a condensing region and the capillary channels (**see col. 5 lines 15-35**); a pair of inner walls, each internal wall coupled to a corresponding one of the pair of capillary walls to create a thermal isolation area between each inner wall and its corresponding capillary wall (**see**

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col. 5 lines 15-35); a vapor inlet port to receive a working fluid in a vapor state operatively coupled to the sealed cavity (**see col. 5 lines 25-36**); and a first liquid output port from which the working fluid exits the condenser, operatively coupled to an outlet end of each capillary channel (**see figure 1**).

7. **As to claim 34**, Levedahl teaches an apparatus that comprises a charge port operatively coupled to the condenser to enable the condenser to be charged with the working fluid (**see col. 4 lines 50-75**).

8. **As to claim 35**, Levedahl teaches an apparatus that comprises a hole extending through the condensing region (**see figure 8**).

9. **As to claim 37**, Levedahl teaches an apparatus wherein the at least one internal wall includes portions that are configured symmetrically so as to form a centrally- disposed condensing region connected to a first capillary channel disposed on a first side of the condensing region and a second capillary channel disposed on a second side of the condensing region opposite of the first side (**see col. 5 lines 25-40**).

10. **As to claim 38**, Levedahl teaches an apparatus that comprises a second liquid outlet port operatively coupled to an outlet end of the second capillary channel (**see figure 8; col. 5 lines 25-40**).

11. **As to claim 39**, Levedahl teaches an apparatus that comprises a plurality of posts disposed within the condensing region extending between the channeled base member and the cover plate (**see figure 8**).

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Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claims **40-42** are rejected under 35 U.S.C. 103(a) as being unpatentable over Levedahl (US 3,528,494) in view of Pfister et al. (US 6,044,661).

15. **As to claim 40**, Levedahl substantially discloses the claimed invention; see rejection of claim 33 above, but does not teach a heat sink thermally coupled to the cover plate. Pfister teaches an apparatus that does provide a heat sink **126** thermally coupled to the cover plate (**see figure 7**). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Levedahl's invention by providing a heat sink thermally coupled to the cover plate as taught by Pfister in order to improve the heat transfer process.

16. **As to claim 41**, Levedahl substantially discloses the claimed invention; see rejection of claim 33 above, but does not teach a heatsink that comprises a base plate having a plurality of pins extending upward therefrom. Pfister teaches an apparatus that does provide a heat sink **126**

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that comprises a base plate having a plurality of pins extending upward therefrom (**see figure 7**).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Levedahl's invention by providing a heat sink that comprises a base plate having a plurality of pins extending upward therefrom as taught by Pfister in order to improve the heat transfer process.

17. **As to claim 42**, Levedahl substantially discloses the claimed invention; see rejection of claim 33 above, but does not teach a centrifugal fan that includes an annular fan rotor having a plurality of fan blades disposed around a periphery of the heatsink so as to draw air across the heatsink when rotated. Pfister teaches an apparatus that does provide a centrifugal fan **128** that includes an annular fan rotor having a plurality of fan blades disposed around a periphery of the heatsink so as to draw air across the heatsink when rotated (**see figure 7; col. 15 lines 20-30**).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Levedahl's invention by providing a centrifugal fan that includes an annular fan rotor having a plurality of fan blades disposed around a periphery of the heatsink so as to draw air across the heatsink when rotated as taught by Pfister in order to improve the heat transfer process.

Allowable Subject Matter

18. Claim **36** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose a thermal isolation areas wherein there is neither liquid nor vapor.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIHIR PATEL whose telephone number is (571)272-4803. The examiner can normally be reached on 7:30 to 4:30 every other Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Bianco can be reached on (571) 272-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nihir Patel/
Examiner, Art Unit 3772

/Patricia Bianco/
Supervisory Patent Examiner, Art Unit 3772